



JESSOP STEEL COMPANY — WASHINGTON, PENNSYLVANIA 15301

MATERIAL SAFETY DATA SHEET

PORSF 11.3.125.1v1
09/11/89

SECTION I

Date: September 1, 1989

Supersedes MSDS Dated: 11/11/85

MANUFACTURER'S NAME	JESSOP STEEL COMPANY	EMERGENCY TELEPHONE NO.	(412) 222-4000
ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE)			
500 Green Street, Washington, Pennsylvania 15301			
PRODUCT NAME:	Tool Steels	CHEMICAL FAMILY	Steel
GRADES			
Carbon (Water Hardening), Cold Work Die, Cold Work (Air			
Hardening), High Speed, Hot Work, Mold, Oil Hardening,			
Shock Resisting, Special Purpose, Armor Plate			

SECTION II - CHEMICAL COMPONENTS

	C.A.S. NUMBER	RANGE %	ACGIH TLV	OSHA PEL
Iron (limits for iron oxide fume)	1309-37-1	50-98	5 mg/m ³	10 mg/m ³
Tungsten	7440-33-7	0-19	5 mg/m ³	5 mg/m ³
Chromium	7440-47-3	0-14	0.5 mg/m ³	1 mg/m ³
Cobalt	7440-48-4	0-12	0.05 mg/m ³	0.05 mg/m ³
Molybdenum (limits for dust)	7439-98-7	0-9	10 mg/m ³	10 mg/m ³
Nickel	7440-02-0	0-5	1 mg/m ³	1 mg/m ³
Vanadium (limits for dust)	1314-62-1	0-5	.05 mg/m ³	.05 mg/m ³
(limits for fume)			.05 mg/m ³	.05 mg/m ³
Manganese (limits for dust)	7439-96-5	0-3	5 mg/m ³	5 mg/m ³
(limits for fume)			1 mg/m ³	1 mg/m ³
Silicon (limits for dust)	7440-21-3	0-3	10 mg/m ³	10 mg/m ³
Carbon (as carbon black)	1333-86-4	0-3	3.5 mg/m ³	3.5 mg/m ³

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	8
VAPOR PRESSURE (MM HG.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	2600-2800F
APPEARANCE & ODOR	Metallic and odorless solid		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	N/A	FLAMMABLE LIMITS	N/A	LEL	UEL
EXTINGUISHING MEDIA	N/A				
SPECIAL FIRE FIGHTING PROCEDURES	N/A				
Unusual Fire Explosion Hazards	N/A				
National Fire Protection Association Rating (NFPA)					
Health: 2	Flammability: 0	Reactivity: 0			

USEPA SF



1265371

N/A = NOT APPLICABLE

SECTION V - HEALTH HAZARD DATA

(X) MAJOR
EXPOSURE HAZARD:

INHALATION ☒

SKIN CONTACT ☐

SKIN ABSORPTION ☐

INGESTION ☐

NOTE: Steel products in the natural state do not present an inhalation, injection, or contact hazard. However, operations such as burning, welding, sawing, brazing, or grinding may result in the following effects if exposures exceed permissible limits: Symptoms: ACUTE: Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever." Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after exposure. Dermatitis due to sensitization may occur in some individuals. CHRONIC: Excessive and repeated overexposure of nickel and chromium can cause various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract. Both chromium and nickel have been associated with upper respiratory cancer. Excessive and repeated overexposure of iron fumes can cause siderosis. Excessive and prolonged inhalation of manganese fumes can cause bronchitis, pneumonitis, lack of coordination. Excessive and prolonged overexposure of cobalt may cause an asthma-like disease with cough and dyspnea.

EMERGENCY FIRST AID PROCEDURES In case of excessive exposure, remove to fresh air, administer oxygen and seek physician's assistance.

SECTION VI - REACTIVITY DATA

STABLE <input checked="" type="checkbox"/>	UNSTABLE <input type="checkbox"/>	CONDITIONS TO AVOID N/A
INCOMPATIBILITY (MATERIALS TO AVOID)		N/A
DECOMPOSITION PRODUCTS		N/A
HAZARDOUS POLYMER- ZATION	MAY OCCUR <input type="checkbox"/> WILL NOT OCCUR <input checked="" type="checkbox"/>	CONDITIONS TO AVOID N/A

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	N/A
WASTE DISPOSAL METHOD Dispose of in accordance with federal, state and local regulations.	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	N/A

SECTION VIII - PERSONNEL PROTECTION INFORMATION

RESPIRATORY PROTECTION For welding, burning, grinding, and cutting operations, local exhaust ventilation should be provided. If fumes or dusts cannot be controlled with exhaust ventilation, an appropriate NIOSH-approved respirator should be used to prevent excessive inhalation exposure.
GLOVES Gloves may be necessary to prevent skin sensitization and dermatitis.
EYE PROTECTION Approved safety glasses or goggles should be worn when working with dusty metals.

PREPARED BY:

Jessop Steel Company

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